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INFORMATION FROM FOREIGN DOCUMENTS OR RADIO BROADCASTS REPORT

CD NO.

DATE OF

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COUNTRY SUBJECT

USSR

Radio communications

HOW

PUBLISHED Monthly periodical

WHERE

PUBLISHED Moscow

DATE

PUBLISHED Dec 1947

LANGUAGE Russian

DATE DIST. / May 1949

INFORMATION 1947

NO. OF PAGES

SUPPLEMENT TO

REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE

Vestnik Svyazi - Elektroszyaz', No 12, 1947. (FDB Per Abs 32T101) -- Information requested.

IMPROVING THE TECHNICAL MEANS OF RADIO COMMUNICATION

I. S. Kumyah, Chief Odeesa Radio Center

The Minister of Communications. in Order No. 60, charged communications personnel with appreciably improving the utilization of technical means and the quality of operations of all communications enterprises.

The Odessa Radio Center Collective, striving to fulfill this order devoted special attention to increasing the labor productivity of radio operators and the utilization of exploitable technical knowledge of personnel, and to improving efficient and inventive work.

When the radic bureau of our Center was organized, it was of necessity marined with young inexperienced radio workers who did not possess the necessary concepts of production discipline. In consequence, the use of equipment was unsatisfactory, and it often broke down. Telegrame, after lying around for a few hours, were transmitted with great delay, and often had to be transmitted by wire. The violation of the rules governing serial processing of telegrams, and lack of familiarity with apparatus resulted in a large percentage of failures and repeated transmission of telegrams, not only from Odessa itself but also from correspondents of our Radio Center.

In order to eliminate the delay of telegrams, we demanded greater technical skill and exact compliance with the rules governing telegraphic exploitation and serial processing of telegrams. Special classes were organized for young workers and Muler, chief of the Radio Bureau, and Zlatkis, cadre mamber, assisted the youths in mastering their speciality. In 1947, only a res score of the personnel were put through the school.

There was an appreciable number of technician-operators in the Radio Center, but lack of theoretical knowledge prevented the correct use of equipment. A course along the lines of a technical-school program was

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problemed for these workers. The better engineers of the Radio Center & Tharbenko, Tonkonogiy, and others) conducted the course. These measures have by improved the technical use of radio equipment.

Serious attention was directed to the correct organization of procedures. The whole operation of processing tolegrens was reviewed, and the isolding of the message tape immediately after reception was secured. Control periods for the handling of telegrams within the office were introduced for each worker. Strict supervision for the observation of these which were entered the time expended in processing telegrams and the productivity of labor. Indeed, we had begun to introduce a few of these measures in 1945, and by the beginning of 1346 the amount of delay had already been cut in half. Delays attributable to the workers were immediately eliminated. Telegrams requesting information were handled with little delay.

In the mid-1946, the basic communications system of Cleans was converted to teletype apparatus. This resulted in a property of messages. However, automatic transmission did not surpass the page of messages, despite the high technical capabilities of the equipment, i.e., in spite of the preliminary processing of the tape and its sutcomatic transmission.

By conducting time studies, it was established that much time was lost (and consequently the actual exploitable rate of exchange was lowered) on account of the transition from automatic to manual operation for the purpose of making inquiries and replies, caused by deterioration in message-transmission or by other operational causes. The poor qualification of those working on teletype and ignorance of the service code also exerted a negative influence upon the rate of transmission. The latter led to lengthy transmissions of conversations in plain text, instead of the briefer coded text.

Having clarified the reasons for this reduction in the rate of turnover, we discussed them in the Collective. A production course was organized for backward workers, and socialistic competition for increasing the rate of turnover was developed. The observations, conclusions, and measures adopted in the discussions were communicated to the correspondents of the Odessa Radio Center. An immediate consequence was a slight increase in the rate of turnover of messages. When teletype nets were first installed, the rate of turnover did not exceed 50 telegrams per hour, but at the end of 1946 it resched 85 telegrams per hour.

In 1947, after receiving Order No 60, the endeavor to increase the exchange rate was continued with renewed vigor Manual operation in telegraphy was reduced to a minimum. Now all inquiries and requests are put on the tape and sent through the transmitter. Knowledge of the service code was increased. This reduced the expenditure of time in the transmission of messages. A lever was installed on the transmitting equipment. By pushing the lever, a signal (ring) is sent to the correspondent, thus calling attention to defects in his transmission.

Now, instead of stopping the transmitter for service conversations (for example, "repeat telegram from scratch," "give me N Sh," "stop transmission," etc.) a previously agreed upon number of rings is sent. This permits the correction of defects in the transmission of the correspondent without cutting off.

Competing for an increase in the exchange rate, many workers in the system have systematically overfulfilled norms by 150-200 percent.

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Stakhanovite methods of labor were introduced into the Radio Center. Worms are now exceeded from 160 to 230 percent. Consequently, when the net is 100 percent loaded, the rate of exchange of messages amounts to 150 and more telegrams per hour.

There were formerly a great number of technical stoppages at our Radio Center due to unfamiliarity with the new equipment, lack of experience in its use unsatisfactory preventive maintenance, and sometimes the lack of spare parts.

We organized a general inspection of equipment, and thus exposed many defects. Each instance of technical failure was carefully studied by the chief engineer of the Center. High requirements were placed on the service personnel. A strict system of preventive maintenance was set up. During each shift, every worker was charged with the uninterrupted operation of the equipment charged to him in socialistic competition.

Efficiency studies by the engineers and technicians assisted in the struggle against technical stoppages. For example, the exciters caused a large number of the failures of the radiotelegraphic transmitters. Specialists of the PM group /young Stakhanovite workers/ under the direction of Engineer-Stakhanovite Greben' constructed two new exciters, using Solntsev's system in series. Placed in the transmitter, these exciters proved to be of high quality and eliminated technical failures.

Our engineers set up an audio amplifier-rectifier and a control-instrument panel for our Radio Bureau. Other efficient measures were also introduced.

Lack of even a few spare parts and ignorance of the details of the equipment greatly contributed to the length of technical stoppages. In 1947, a repair shop with various machine tools was set up, thus permitting the local manufacture of many small parts and the realisation of our specialists' technical ideas.

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